MONTANA STATE HOSPITAL
POLICY AND PROCEDURE

GUIDELINES FOR ISOLATION PRECAUTIONS

Effective Date: August 11, 2010 **Policy #:** IC-11

I. PURPOSE:

A. To establish guidelines for Isolation Precautions at Montana State Hospital (MSH) to meet the following objectives:

1) to be epidemiologically sound;

2) to recognize the importance of all body fluids, secretions, and excretions in the transmission of nosocomial pathogens;

3) to contain adequate precautions for infections transmitted by the airborne droplet and contact routes of transmission; and

4) to be as simple and user friendly as possible.

II. POLICY:

A. MSH will have two tiers of isolation precautions.

1. In the first, and most important, tier are those precautions designed for the care of all patients in hospitals regardless of status. Implementation of these "Standard Precautions" is the primary strategy for successful nosocomial infection control.

2. In the second tier are precautions designed only for the care of specified patients. These additional "Transmission-based Precautions" are used for patients known or suspected to be infected or colonized with epidemiologically important pathogens which can be transmitted by airborne or droplet transmission or by contact with dry skin or contaminated surfaces.

III. DEFINITIONS:

A. Standard Precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals.

B. Transmission-based Precautions are designed for patients documented or suspected to be infected or colonized with highly transmissible or epidemiologically important pathogens for which additional precautions beyond Standard Precautions are needed to interrupt transmission in hospitals. Transmission-based Precautions are to be used on an empiric, temporary basis until a diagnosis can be made; these empiric, temporary precautions are to be used in addition to Standard Precautions.

There are three types of Transmission-Based Precautions: Airborne Precautions, Droplet Precautions, and Contact Precautions. They may be combined for diseases which have multiple routes of transmission. When used either singularly or in combination, they are to be used in addition to Standard precautions.

C. Universal Precautions - the name the CDC uses to describe a very aggressive plan which treats all blood and body fluids as a source of contamination and infection.

D. Chain of Infection - the spread of infection within a hospital requiring three elements: a source of infecting microorganisms, a susceptible host, and a means of transmission for the microorganism.

E. Source - human sources of the infecting microorganisms in hospitals may be patients, personnel, or, on occasion, visitors. Other sources of infecting microorganisms can be the patient's own endogenous flora and inanimate environmental objects which have become contaminated, including equipment and medications.

F. Host - an organism which harbors and provides nourishment for a parasite.

G. Transmission - Microorganisms transmitted in hospitals by several routes. The same microorganism may be transmitted by more than one route. There are five main routes of transmission--contact, droplet, airborne, common vehicle and vector borne.

H. Direct-contact transmission - a direct body surface-to-body surface contact and physical transfer of microorganisms between a susceptible host and an infected or colonized person.

I. Indirect-contact transmission - contact of a susceptible host with a contaminated intermediate object, usually inanimate, such as contaminated instruments or dressings, or contaminated gloves not changed between patients.

J. Droplet Transmission - droplets generated from the source person primarily during coughing, sneezing, talking and during the performance of certain procedures such as suctioning and bronchoscopy. Transmission occurs when droplets containing microorganisms generated from the infected person are propelled a short distance through the air and deposited on the hosts conjunctivae, nasal mucosa or mouth.

K. Airborne Transmission occurs by dissemination of either airborne droplet nuclei (small-particle resident [5 microns or smaller in size] of evaporated droplets containing microorganisms which remain suspended in the air for long periods of time) or dust particles containing the infectious agent. Microorganisms carried in this manner can be widely dispersed by air currents and may become inhaled by a susceptible host within the same room or over a longer distance from the source patient depending on environmental factors.

L. Common Vehicle Transmission applies to microorganisms transmitted by contaminated items such as food, water, medications, devises and equipment.

M. Vectorborne Transmission occurs when vectors such as mosquitoes, flies, rats, and other vermin transmit microorganisms.

III. RESPONSIBILITIES:

A. All Direct Care Staff - Need to be familiar with this policy and are responsible for following the procedures contained within it.

B. Staff Development Services - to document that direct care staff receive orientation to this policy upon employment and are updated annually.

C. Infection Preventionist - responsible for updating information when available and staff and patient education.

V. PROCEDURES:

A. FUNDAMENTALS OF ISOLATION PRECAUTIONS:

A variety of infection prevention and control measures are used for decreasing the risk of transmission of microorganisms in hospitals. These measures make up the fundamentals of isolation precautions.

1. Handwashing and Gloving

a) Handwashing is frequently called the single most important measure for preventing spread of infection.

b) Washing hands as promptly and thoroughly as possible between patient contacts and after contact with blood, body fluids, secretions, excretions and equipment or articles contaminated by them is an important component of infection prevention control and isolation precautions. In addition to handwashing, gloves play an important role in the prevention of the spread of infection.

c) Gloves are worn for three important reasons in hospitals. First, gloves are worn to provide a protective barrier and prevent gross contamination of the hands when touching blood, body fluids, secretions, excretions, mucous membranes and non-intact skin; the wearing of gloves in specified circumstances to reduce the risk of exposures to bloodborne pathogens. Second, gloves are worn to reduce the likelihood microorganisms present on the hands of personnel will be transmitted to patients during invasive or other patient-care procedures involving touching a patient's mucous membranes and non-intact skin. Third, gloves are worn to reduce the likelihood the hands of personnel contaminated with microorganisms from a patient or a fomite can

transmit these microorganisms to another patient. In this situation, gloves must be changed between patient contacts and hands washed after gloves are removed.

d) Wearing gloves does not replace the need for handwashing because:

- ♦ gloves may have small inapparent defects or be torn during use, and
- ♦ hands can become contaminated during removal of gloves.

e) Failure to change gloves between patient contacts is an infection control hazard.

2. Patient placement

a) Appropriate patient placement is an important component of isolation precautions. When possible, patients with highly transmissible or epidemiologically important microorganisms are placed in a private room with handwashing and toilet facilities to reduce opportunities for transmission of microorganisms. A private room is also important to prevent direct- or indirect-contact transmission when the source patient has poor hygienic habits, contaminates the environment, or cannot be expected to assist in maintaining infection control precautions to limit transmission of microorganisms.

b) When a private room is not available, infected patients are placed with appropriate roommates. Patients infected by the same microorganism can usually share a room provided:

- ♦ they are not infected with other potentially transmissible microorganisms and
- ♦ the likelihood of reinfection with the same organism is minimal.

c) Such sharing of rooms, also referred to as cohorting patients, is especially useful during outbreaks or when there is a shortage of private rooms. When a private room is not available and cohorting is not achievable or recommended, it is very important to consider the epidemiology and mode of transmission of the infecting pathogen and the patient population being served in determining patient placement. Under these circumstances, consultation with infection control professionals is advised before patient placement.

3. Transport of Infected Patients

Limiting the movement and transport of patients infected with virulent or epidemiologically important microorganisms, and ensuring such patients leave their rooms only for essential purposes, reduces opportunities for transmission of microorganisms in hospitals. When patient transport is necessary, it is important that:

- ♦ appropriate barriers (i.e., mask, impervious dressings) are worn or used by the patient to reduce the opportunity for transmissions of pertinent microorganisms to other patients, personnel and visitors and to reduce contamination of the environment;

- ♦ personnel in the area to which the patient is to be taken are notified of the impending arrival of the patient and of the precautions to be used to reduce the risk of transmission of infectious microorganisms; and

- ♦ patients are informed of ways by which they can assist in preventing the transmission of their infectious microorganisms to others.

4. Mask, Respiratory Protection, Eye Protection, Face Shields

   Various types of masks, goggles and face shields are worn alone or in combination to provide barrier protection. A mask which covers both the nose and mouth, and goggles or face shields are worn during procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions or excretions to provide protection of the mucous membranes of the eyes, nose and mouth from contact transmission of pathogens. A surgical mask is generally worn to provide protection against spread of infectious large particle droplets transmitted by close contact and generally travel only short distances (up to 3 feet) from infected patients who are coughing or sneezing.

5. Gowns and Protective Apparel

   Various types of gowns and protective apparel are worn to provide barrier protection and to reduce opportunities for transmission of microorganisms in hospitals. Gowns are worn to prevent contamination of clothing and protect the skin of personnel from blood and body fluid exposures. Gowns especially treated to make them impermeable to liquids, leg coverings, boots or shoe covers provide greater protection to the skin when splashes or large quantities of infective material are present or anticipated.

6. Patient-Care Equipment and Articles

   Many factors determine whether special handling and disposal of used patient-care equipment and articles is prudent or required, including the likelihood of contamination with infective material; the ability to cut, stick, or otherwise cause injury (needles, scalpels and other sharp instruments [sharps]); the severity of the associated disease; and the environmental stability of the pathogens involved. Used sharps are placed in puncture-resistant containers; other articles are placed in a bag.

Contaminated reusable critical medical devices or patient-care equipment (i.e., equipment which enters normally sterile tissue or through which blood flows) or semi-critical medical devices or patient-care equipment (i.e., equipment which touches mucous membranes) are sterilized or disinfected (reprocessed) after use.

Noncritical equipment (i.e., equipment which touches intact skin) contaminated with blood, body fluids, secretions or excretions is cleaned and disinfected after use. Contaminated disposable (single-use) patient-care equipment is handled and transported in a manner which reduces the risk of transmission of microorganisms and decreases environmental contamination in the hospital. The equipment is disposed of according to hospital policy and applicable regulations.

7. Linen and Laundry

   Although soiled linen may be contaminated with pathogenic microorganisms, the risk of disease transmission is negligible if it is handled, transported and laundered in a manner which avoids transfer of microorganisms to patients, personnel and environments. Rather than rigid rules and regulations, hygienic and common sense storage and processing of clean and soiled linen are recommended.

8. Dishes, Glasses and Cups and Eating Utensils

   No special precautions are needed for dishes, glasses and cups, or eating utensils. Either disposable or reusable dishes and utensils can be used for patients on isolation precautions. The combination of hot water and detergents used in hospital dishwashers is sufficient to decontaminate dishes, glasses and cups, and eating utensils.

9. Routine and Terminal Cleaning

   The room or cubicle and bedside equipment of patients or isolation precautions are cleaned using the same procedures used for other patients unless the infecting microorganism(s) and the amount of environmental contamination indicates special cleaning.

10. Standard Precautions

    Standard Precautions synthesize the major features of Universal (Blood and Body Fluid) Precautions (designed to reduce the risk of transmission of bloodborne pathogens) and Body Substance Isolation (designed to reduce the risk transmission of pathogens from moist body substances) and applies them to all patients receiving care in hospitals regardless of their diagnosis or presumed infection status. Standard Precautions apply to:

- blood;
- all body fluids, secretions and excretions regardless of whether or not they contain visible blood;
- non-intact skin, and;
- mucous membranes.

Standard Precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals.

11. Transmission-Based Precautions

Transmission-based Precautions are designed for patients documented or suspected to be infected with highly transmissible or epidemiologically important pathogens for which additional precautions beyond Standard Precautions are needed to interrupt transmission in hospital. There are three types of Transmission-based Precautions: Airborne Precautions, Droplet Precautions and Contact Precautions. They may be combined together for diseases that have multiple routes of transmission. When used either singularly or in combination, they are to be used in addition to Standard Precautions.

- **Airborne Precautions** are designed to reduce the risk of airborne transmission of infectious agents. Airborne transmission occurs by dissemination of either airborne droplet nuclei (small-particle residue [5 microns or smaller size]). Microorganisms carried in this manner can be widely dispersed by air currents and may become inhaled by or deposited on a susceptible host within the same room or over a longer distance from the source patient, depending on environmental factors. Airborne Precautions apply to patients known or suspected to be infected with epidemiologically important pathogens that can be transmitted by the airborne rout.

- **Droplet Precautions** are designed to reduce the risk of droplet transmission of infectious agents. Droplet transmission involves contact of the conjunctivae, or the mucous membranes of the nose or mouth of a susceptible person with large-particle droplets (larger than 5 microns in size) containing microorganisms generated from a person who has a clinical disease or is a carrier of the microorganism. Droplets are generated from the source person primarily during coughing, sneezing, or talking, and during the performance of certain procedures such as suctioning and bronchoscopy. Transmission via large particle droplets requires close contact between source and recipient persons since droplets do not remain

suspended in the air and generally travel only short distances, usually 3 feet or less, through the air. Droplet Precautions apply to any patient known or suspected to be infected with epidemiologically important pathogens which can be transmitted by infectious droplets.

- **Contact Precautions** are designed to reduce the risk of transmission of epidemiologically important microorganisms by direct or indirect contact. Direct-contact transmission involves skin-to-skin contact and physical transfer of microorganisms to a susceptible host from an infected or colonized person, such as occurs when personnel turn a patient, give a patient a bath or perform other patient-care activities requiring physical contact. Direct-contact transmission can also occur between two patients (e.g., by hand contact), with one serving as the source of infectious microorganisms and the other as a susceptible host with a contaminated intermediate object, usually inanimate in the patient's environment. Contact Precautions apply to specified patients known or suspected to be infected or colonized (presence of microorganism in or on patient but without clinical signs and symptoms of infection) with epidemiologically important microorganisms which can be transmitted by direct or indirect contact.

12. Empiric Use of Airborne, Droplet or Contact Precautions

In many instances, the risk of nosocomial transmission of infection may be highest before a definitive diagnosis can be made and precautions based on a diagnosis implemented. The routine use of Standard Precautions for all patients should greatly reduce this risk for conditions other than those requiring Airborne, Droplet or Contact Precautions. While it is not possible to prospectively identify all patients needing these enhanced precautions, certain clinical syndromes and conditions carry a sufficiently high risk to warrant the empiric addition of enhanced precautions while a more definitive diagnosis is pursued.

The organisms listed under the column "Potential Pathogens" are not intended to represent the complete or even most likely diagnoses, but rather possible etiologic agents requiring additional precautions beyond Standard Precautions until they can be ruled out.

B. STANDARD PRECAUTIONS:

Use Standard Precautions, or the equivalent, for the care of all patients.

1. Handwashing

a) Wash hands after touching blood, body fluids, secretions, excretions and contaminated items, whether or not gloves are worn. Wash hands immediately

after gloves are removed between patient contacts, and when otherwise indicated to avoid transfer of microorganisms to other patients or environments.

b) Use a plain (nonantimicrobial) soap for handwashing except for specific circumstances.

2. Gloves

a) Wear gloves (clean, non-sterile gloves are adequate) when touching blood, body fluids, secretions, excretions and contaminated items.

b) Put on clean gloves just before touching mucous membranes and non-intact skin. Remove gloves promptly after use, before touching non-contaminated items and environmental surfaces, and before going to another patient. Wash hands immediately to avoid transfer of microorganisms to other patients or environments.

3. Mask, Eye Protection, Face Shield

a) Wear mask and eye protection or a face shield to protect mucous membranes of the eyes, nose, and mouth during procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions and excretions.

4. Gowns

a) Wear a gown (a clean, non-sterile gown is adequate) to protect skin and to prevent soiling of clothing during procedures and patient-care activities likely to generate splashes or sprays of blood, body fluids, secretions, excretions or cause soiling of clothing.

b) Select a gown appropriate for the activity and amount of fluid likely to be encountered. Remove a soiled gown as promptly as possible and wash hands to avoid transfer of microorganisms to other patients or environments.

5. Patient-Care Equipment

a) Handle used patient-care equipment soiled with blood, body fluids, secretions and excretions in a manner which prevents skin and mucous membrane exposures, contamination of clothing and transfer of microorganisms to other patients and environments.

b) Ensure reusable equipment is not used for the care of another patient until it has been appropriately cleaned and reprocessed and single use items are properly discarded.

6. Linen

    a) Handle, transport and process used linen soiled with blood, body fluids, secretions and excretions in a manner which prevents skin and mucous membrane exposures, contamination of clothing, and avoids transfer of microorganisms to other patients and environments.

7. Occupational Health and Bloodborne Pathogens

    a) Take care to prevent injuries when using needles, scalpels and other sharp instruments or devices; when handling sharp instruments after procedures; when cleaning used instruments; and when disposing of used needles. Never recap used needles or otherwise manipulate them using both hands, or any other technique directing the point of a needle toward any part of the body; rather, use either a one-handed "scoop" technique or a mechanical device designed for holding the needle sheath. Do not remove used needles from disposable syringes by hand, and do not bend, break, or otherwise manipulate used needles by hand. Place used disposable syringes and needles, scalpel blades, and other sharp items in appropriate puncture-resistant containers located as close as practical to the area in which the items were used.

    b) Use mouthpieces, resuscitation bags, or other ventilation devices as an alternative to mouth-to-mouth resuscitation methods in areas where the need for resuscitation is predictable.

8. Patient Placement

    a) Place a patient who contaminated the environment or who does not (or cannot be expected to) assist in maintaining appropriate hygiene or environmental control in a private room. If a private room is not available, consult with infection control professionals regarding patient placement or other alternatives.

C. AIRBORNE PRECAUTIONS:

In addition to Standard Precautions, use Airborne Precautions, or the equivalent, for patients known or suspected to be infected with microorganisms transmitted by airborne droplet nuclei (small-particle residue [5 microns or smaller in size] of evaporated droplets containing microorganisms which remain suspended in the air and can be widely dispersed by air currents within a room or over a long distance).

1. Patient Placement

    a) Place the patient in a room having

        ♦ monitored negative air pressure in relation to the surrounding areas;

- a minimum of six air changes per hour; and
- appropriate discharge of air outdoors or monitored high-efficiency filtration of room air before the air is circulated to other areas in the hospital.

b) Keep the room door closed and the patient in the room. When a private room is not available, place the patient in a room with a patient who has active infection with same microorganism, unless otherwise recommended, but with no other infection. When a private room is not available and cohorting is not desirable, consultation with infection control professionals is advised before patient placement.

2. Respiratory Protection

a) Wear respiratory protection when entering the room of a patient with known or suspected infectious tuberculosis. Do not enter the room of patients known or suspected to have measles (rubella) or varicella (chickenpox) if susceptible to these infections.

3. Patient Transport

a) Limit the movement and transport of the patient from the room for essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplet nuclei by placing a surgical mask on the patient, if possible.

D. DROPLET PRECAUTIONS:

In addition to Standard Precautions, use Droplet Precautions, or the equivalent, for a patient known or suspected to be infected with microorganisms transmitted by droplets (large-particle droplets [larger than 5 microns in size] generated by the patient during coughing, sneezing, talking or the performance of procedures).

1. Patient Placement

Place the patient in a private room. When a private room is not available, place the patient in a room with patient(s) who has/have active infection with the same microorganism, but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, maintain spatial separation of at least 3 feet between the infected patient and other patients and visitors.

2. Mask

In addition to Standard Precautions, wear a mask when working within 3 feet of the patient.

3. Patient Transport

   Limit the movement and transport of the patient from the room to essential purposes only. If transport or movement is necessary, minimize patient dispersal of droplets by masking the patient, if possible.

E. CONTACT PRECAUTIONS:

In addition to Standard Precautions, use Contact Precautions, or the equivalent for specified patients known or suspected to be infected or colonized with epidemiologically important microorganisms transmitted by direct contact with the patient (hand or skin-to-skin contact occurring when performing patient-care activities requiring touching the patient's dry skin) or indirect contact touching with environmental surfaces or patient-care items in the patient's environment.

1. Patient Placement

   Place the patient in a private room. When a private room is not available, place the patient in a room with patient(s) who has/have active infection with the same microorganism, but with no other infection (cohorting). When a private room is not available and cohorting is not achievable, consider the epidemiology of the microorganism and the patient population when determining patient placement; consultation with infection control professionals is advised before patient placement.

2. Gloves and Handwashing

   In addition to wearing gloves as outlined under Standard Precautions, wear gloves (clean, non-sterile gloves are adequate) when entering the room. During the course of providing care for a patient, change gloves after having contact with infective material which may contain high concentrations of microorganisms (fecal material and wound drainage). Remove gloves before leaving the patient's room and wash hands immediately with an antimicrobial agent. After glove removal and handwashing, ensure hands do not touch potentially contaminated environmental surfaces or items in the patient's room to avoid transfer of microorganisms to other patients or environments.

3. Gown

   In addition to wearing a gown as outlined under Standard Precautions, wear a gown (a clean, non-sterile gown is adequate) when entering the room if you anticipate your clothing will have substantial contact with the patient, environmental surfaces, or items in the patient's room, or if the patient is incontinent, or has diarrhea, an ileostomy, a colostomy, or wound drainage not contained by a dressing. Remove the gown before leaving the patient's environment. After gown removal, ensure clothing does not contact potentially

contaminated environmental surfaces to avoid surfaces to avoid transfer of microorganisms to other patients or environments.

VI. REFERENCES: MSH Policy -- *Standard Precaution;* Consultants Network, Inc.; Department of Health & Human Services Center for Disease Control & Prevention

VII. COLLABORATED WITH: Infection Preventionist, Director of Nursing Services, Medical Director

VIII. RESCISSIONS: #IC-11, *Guidelines for Isolation Precautions* dated October 30, 2006; #IC-11, *Guidelines for Isolation Precautions* dated December 18, 2002; # IC-11, *Guidelines for Isolation Precautions* dated February 14, 2000; MSH Policy # 8-01P.080984, *Isolation Precautions* dated April 11, 1996.

IX. DISTRIBUTION: All hospital policy manuals

X. ANNUAL REVIEW AND AUTHORIZATION: This policy is subject to annual review and authorization for use by either the Administrator or the Medical Director with written documentation of the review (Attachment B) per M.C.A. § 307-106-330.

XI. FOLLOW-UP RESPONSIBILITY: Infection Control Nurse

XII. ATTACHMENTS: None

_____/___/__		_____/___/__	
John W. Glueckert	Date	Thomas Gray, MD	Date
Hospital Administrator		Medical Director	